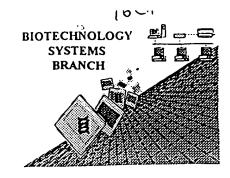
RAW SEQUENCE LISTING ERROR REPORT



1553

The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) detected errors when processing the following computer readable form:

RECEIVED

Application Serial Number:

69/455, 978

NOV 1 3 2001

Source:

OIPE ___

TECH CENTER 1600/2900

Date Processed by STIC:

THE ATTACHED PRINTOUT EXPLAINS DETECTED ERRORS.
PLEASE FORWARD THIS INFORMATION TO THE APPLICANT BY EITHER:

- 1) INCLUDING A COPY OF THIS PRINTOUT IN YOUR NEXT COMMUNICATION TO THE APPLICANT, WITH A NOTICE TO COMPLY or,
- 2) TELEPHONING APPLICANT AND FAXING A COPY OF THIS PRINTOUT, WITH A NOTICE TO COMPLY

FOR CRF SUBMISSION QUESTIONS, PLEASE CONTACT MARK SPENCER, 703-308-4212.

FOR SEQUENCE RULES INTERPRETATION, PLEASE CONTACT ROBERT WAX, 703-308-4216. PATENTIN 2.1 e-mail help: patin21help@uspto.gov or phone 703-306-4119 (R. Wax) PATENTIN 3.0 e-mail help: patin3help@uspto.gov or phone 703-306-4119 (R. Wax)

TO REDUCE ERRORED SEQUENCE LISTINGS, PLEASE USE THE <u>CHECKER</u> <u>VERSION 3.0 PROGRAM</u>, ACCESSIBLE THROUGH THE U.S. PATENT AND TRADEMARK OFFICE WEBSITE. SEE BELOW:

Checker Version 3.0

The Checker Version 3.0 application is a state-of the-art Windows based software program employing a logical and intuitive user-interface to check whether a sequence listing is in compliance with format and content rules. Checker Version 3.0 works for sequence listings generated for the original version of 37 CFR §§1.821 – 1.825 effective October 1, 1990 (old rules) and the revised version (new rules) effective July 1, 1998 as well as World Intellectual Property Organization (WIPO) Standard ST.25.

Checker Version 3.0 replaces the previous DOS-based version of Checker, and is Y2K-compliant. Checker allows public users to check sequence listings in Computer Readable form (CRF) before submitting them to the United States Patent and Trademark Office (USPTO). Use of Checker prior to filing the sequence listing is expected to result in fewer errored sequence listings, thus saving time and money.

Checker Version 3.0 can be down loaded from the USPTO website at the following address: http://www.uspto.gov/web/offices/pac/checker

Raw Sequence Listing Error Summary

•	
ERROR DETECTED	SUGGESTED CORRECTION SERIAL NUMBER: $09/955$, 978
ATTN: NEW RULES CASES:	PLEASE DISREGARD ENGLISH "ALPHA" HEADERS, WHICH WERE INSERTED BY PTO SOFTWARI
lWrapped Nucleics Wrapped Aminos	The number/text at the end of each line "wrapped" down to the next line. This may occur if your file was retrieved in a word processor after creating it. Please adjust your right margin to 3; this will prevent "wrapping."
2Invalid Line Length	The rules require that a line not exceed 72 characters in length. This includes white spaces.
3Misaligned Amino Numbering	The numbering under each 5 th amino acid is misaligned. Do not use tab codes between numbers; use space characters, instead.
4Non-ASCII	The submitted file was not saved in ASCII(DOS) text, as required by the Sequence Rules. Please ensure your subsequent submission is saved in ASCII text.
5Variable Length	Sequence(s) contain n's or Xaa's representing more than one residue. Per Sequence Rules, cach n or Xaa can only represent a single residue. Please present the maximum number of each residue having variable length and indicate in the <220>-<223> section that some may be missing.
6PatentIn 2.0 "bug"	A "bug" in PatentIn version 2.0 has caused the <220>-<223> section to be missing from amino acid sequences(s) Normally, PatentIn would automatically generate this section from the previously coded nucleic acid sequence. Please manually copy the relevant <220>-<223> section to the subsequent amino acid sequence. This applies to the mandatory <220>-<223> sections for Artificial or Unknown sequences.
7Skipped Sequences (OLD RULES)	Sequence(s) missing. If intentional, please insert the following lines for each skipped sequence: (2) INFORMATION FOR SEQ ID NO:X: (insert SEQ ID NO where "X" is shown) (i) SEQUENCE CHARACTERISTICS: (Do not insert any subheadings under this heading) (xi) SEQUENCE DESCRIPTION:SEQ ID NO:X: (insert SEQ ID NO where "X" is shown) This sequence is intentionally skipped
•	Please also adjust the "(ii) NUMBER OF SEQUENCES:" response to include the skipped sequences.
8Skipped Sequences (NEW RULES)	Sequence(s) missing. If intentional, please insert the following lines for each skipped sequence. <210> sequence id number <400> sequence id number 000
9Use of n's or Xaa's (NEW RULES)	Use of n's and/or Xaa's have been detected in the Sequence Listing. Per 1.823 of Sequence Rules, use of <220>-<223> is MANDATORY if n's or Xaa's are present. In <220> to <223> section, please explain location of n or Xaa, and which residue n or Xaa represents.
10Invalid <213> Response	Per 1.823 of Sequence Rules, the only valid <213> responses are: Unknown, Artificial Sequence, or scientific name (Genus/species). <220>-<223> section is required when <213> response is Unknown or is Artificial Sequence
11Use of <220>	Sequence(s) missing the <220> "Feature" and associated numeric identifiers and responses. Use of <220> to <223> is MANDATORY if <213> "Organism" response is "Artificial Sequence" or "Unknown." Please explain source of genetic material in <220> to <223> section. (See "Federal Register," 06/01/1998, Vol. 63, No. 104, pp. 29631-32) (Sec. 1.823 of Sequence Rules)
Patentin 2.0 "bug"	Please do not use "Copy to Disk" function of PatentIn version 2.0. This causes a corrupted file, resulting in missing mandatory numeric identifiers and responses (as indicated on raw sequence listing). Instead, please use "File Manager" or any other manual means to copy file to floppy disk.

OIPE

RAW SEQUENCE LISTING DATE: 07/07/2001 PATENT APPLICATION: US/09/455,978 TIME: 13:15:00

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Output Set: N:\CRF3\07062001\I455978.raw

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         Larsen, Randy
 6 <120> TITLE OF INVENTION: HEME PROTEINS HEMAT-HS AND HEMAT-BS AND THEIR USE IN
         MEDICINE AND MICROSENSORS
 9 <130> FILE REFERENCE: 201040/1020
11 <140> CURRENT APPLICATION NUMBER: 09/455,978
                                                         Does Not Comply
12 <141> CURRENT FILING DATE: 1999-12-06
                                                         Corrected Diskette Needed
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                                                          sec page 5
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20 <212> TYPE: DNA
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DATE: 07/07/2001 RAW SEQUENCE LISTING TIME: 13:15:00 PATENT APPLICATION: US/09/455,978

Input Set : A:\H1020011.app
Output Set: N:\CRF3\07062001\I455978.raw

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66 Ala Leu Ala Ala Glu Gln Pro Leu Phe Glu Ala Thr Ala Asp Ala Leu 67 50 55 60 60 8		110	AIU	_	y	ЦСи	DCI	1 110		011							
67		λla	Len		Ala	Glu	Gln	Pro		Phe	Glu	Ala	Thr		Asp	Ala	Leu
69 Val Thr Asp Phe Tyr Asp His Leu Glu Ser Tyr Glu Arg Thr Gln Asp 70 65 70 70 75 75 76 100 100 105 110 100 105 110		1114				0											
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72 Leu Phe Ala Asn Ser Thr Lys Thr Val Glu Gln Leu Lys Glu Thr Gln 73			* ***			-1-								,			
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75 Ala Glu Tyr Leu Leu Gly Leu Gly Arg Gly Glu Tyr Asp Thr Glu Tyr 100		LCu						~10									
76 100 105 110 read of the content		Ala	Glu	Tvr	Len		Glv	Leu	Glv	Ara		Glu	Tvr	Asp	Thr	Glu	Tyr
78 Ala Ala Gln Arg Ala Arg Ile Gly Lys Ile His Asp Val Leu Gly Leu 79			U-u	-1-			0-1		1		1						-
79 115 120 125 81 Gly Pro Asp Val Tyr Leu Gly Ala Tyr Thr Arg Tyr Tyr Thr Gly Leu 135 140 84 Leu Asp Ala Leu Ala Asp Asp Val Val Ala Asp Arg Gly Glu Glu Ala 155 160 87 Ala Ala Ala Val Asp Glu Leu Val Ala Arg Phe Leu Pro Met Leu Lys 155 160 88 165 170 175 175 90 Leu Leu Thr Phe Asp Glu Leu Val Ala Arg Phe Leu Pro Met Leu Lys 185 170 91 Tyr Ala Gln Arg Leu His Asp Glu Ile Asp Ser Arg Gln Glu Leu Ala 185 190 93 Tyr Ala Gln Arg Leu His Asp Glu Ile Asp Ser Arg Gln Glu Leu Ala 195 200 96 Asn Ala Val Ala Thr His Val Glu Ala Pro Leu Ser Ser Leu Glu Ala 182 97 Thr Ser Gln Asp Val Ala Glu Arg Thr Asp Thr Met Arg Ala Arg Thr 200 99 Thr Ser Gln Asp Val Ala Glu Arg Thr Asp Thr Met Arg Ala Arg Thr 220 100 225 230 235 240 105 Val Ser Ala Ser Val Glu Glu Glu Val Ala Ser Thr Ala Asp Asp Val Ser Arg Glu Ile Ser Ser Ser 265 270 108 Arg Thr Ser Glu Asp Ala Glu Glu Glu Val Ala Ser Thr Ala Asp Asp Val Arg 265 270 108 Arg Thr Ser Glu Asp Ala Glu Glu Glu Glu Ala Leu Ala Gln Gln Gln Gly Glu Ala Ala 285 111 Ala Asp Asp Asp Ala Leu Ala Glu Glu Glu Glu Glu Ala Ala Asp Val		Ala	Ala	Gln		Αla	Arσ	Ile	Glv		Ile	His	Asp	Val	Leu	Gly	Leu
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103				Glr	ı Val	Asp	Arq	Met	Ala	Asp	val	Ser	Arq	Glu	ı Ile	Ser	Ser
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112 290 295 300 310 Arg Ala Ala Ala Asp Val 114 Gly Val Thr Ala Gly Val Glu Glu Glu Gly Gly Gly Arg Ala Ala Ala Asp Val 305 310 310 315 315 315 320 117 Glu Ser Val Thr Gly Val Thr Gly Val Ile Asp Asp Ala Gly Glu Glu Glu Glu Glu Gly Gly Free Ala Ser Thr Gly Glu Ala Ala Arg Ala Arg Ala Gly Gly Glu Ala Gly Gly Gly Ala Gly Gly Gly Ala Gly Gly Gly Ala Gly Gly Gly Gly Ala Gly	11	l Ala	Asp	Asp	Ala	Leu	Ala	Thr	Met	: Thr	Asp	Ile	Asp	Glu	ιAla	Thr	Asp
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127 370 375 380 129 Ala Glu Thr Glu Glu Thr Val Asp Gln Leu Asp Glu Val Asn Gln Arg 375 380 130 385 390 395 395 400 132 Ile Gly Glu Gly Val Glu Arg Val Glu Glu Glu Ala Met Glu Thr Leu Gln			_														
127 370 375 380 129 Ala Glu Thr Glu Glu Thr Val Asp Gln Leu Asp Glu Val Asn Gln Arg 375 380 130 385 390 395 395 400 132 Ile Gly Glu Gly Val Glu Arg Val Glu Glu Glu Ala Met Glu Thr Leu Gln	12	Ser	Arg	r Glu	ı Gln	Ser	Thr	Arg	Va1	. Glu	ı Glu	Leu	Val	Glu	Gln	Met	Gln
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132 Ile Gly Glu Gly Val Glu Arg Val Glu Glu Ala Met Glu Thr Leu Gln									_	•							400
				, Glu	ı Gly	val	Glu	Arg	va1	. Glu	ı Glu	Ala	Met	Glu	Thr	Leu	Gln
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RAW SEQUENCE LISTING DATE: 07/07/2001 PATENT APPLICATION: US/09/455,978 TIME: 13:15:00

Input Set : A:\H1020011.app

Output Set: N:\CRF3\07062001\I455978.raw

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180 attacctgca
                                                                       1390
183 <210> SEQ ID NO: 4
184 <211> LENGTH: 432
185 <212> TYPE: PRT
186 <213> ORGANISM: Bacillus subtilis
188 <400> SEQUENCE: 4
189 Met Leu Phe Lys Lys Asp Arg Lys Gln Glu Thr Ala Tyr Phe Ser Asp
190
                                         10
192 Ser Asn Gly Gln Gln Lys Asn Arg Ile Gln Leu Thr Asn Lys His Ala
                                     25
195 Asp Val Lys Lys Gln Leu Lys Met Val Arg Leu Gly Asp Ala Glu Leu
```

RAW SEQUENCE LISTING DATE: 07/07/2001 TIME: 13:15:00 PATENT APPLICATION: US/09/455,978

Input Set : A:\H1020011.app
Output Set: N:\CRF3\07062001\I455978.raw

198	196			35					40					45			
199		Tyr	Val		Glu	Gĺn	Leu	Gln		Leu	Ile	Gln	Glu		Ile	Val	Asn
202		-															
204 Asp Tle Tle Asn Asp His Ser Ser Val Asp Arg Leu Lys Gln Thr Leu 205 Ser 100 Ser 100 105 110 110 110 115 110 110 115 110	201	Ile	Val	Asp	Ala	Phe	Tyr	Lys	Asn	Leu	Asp	His	Glu	Ser	Ser	Leu	Met
100	202	65					70					75					80
207	204	Asp	Ile	Ile	Asn	Asp	His	Ser	Ser	Val	Asp	Arg	Leu	Lys	Gln	Thr	Leu
100	205					85					90					95	
110	207	Lys	Arg	His	Ile	Gln	Glu	Met	Phe	Ala	Gly	Val	Ile	Asp	Asp	Glu	Phe
115	208				100					105					110		
1	210	Ile	Glu	Lys	Arg	Asn	Arg	Ile	Ala	Ser	Ile	His	Leu	Arg	Ile	Gly	Leu
130																	
116		Leu		Lys	Trp	Tyr	Met	-	Ala	Phe	Gln	Glu		Leu	Leu	Ser	Met
145		_		_			_		_	_							
Name			Asp	Ile	Tyr	Glu		Ser	He	Thr	Asn		GIn	Glu	Leu	Leu	
175 176 177 178 179			-1 -	.	. 1 -	ml		T	-1 -	T	•		a 1	a1	01	.	
See		Ата	тте	ьys	Ala		Thr	Lys	тте	Leu		Leu	Glu	GIn	GIn		vaı
180		T 011	C1.,	7 l a	Dho		002	C1	m	7 00		шь»	7 ma	Nan	C1.,		C1
Second		ьец	GIU	Ата		GIII	ser	GIU	туг		GIII	TIIL	Arg	ASP		GIII	GIU
226 195 200 <td></td> <td>Glu</td> <td>Luc</td> <td>Luc</td> <td></td> <td>T.Ou</td> <td>Lan</td> <td>Uic</td> <td>Gln</td> <td></td> <td>Tla</td> <td>Cln</td> <td>Glu</td> <td>Thr</td> <td></td> <td>Clv</td> <td>Sor</td>		Glu	Luc	Luc		T.Ou	Lan	Uic	Gln		Tla	Cln	Glu	Thr		Clv	Sor
228 Ile Ala Asn Leu Phe Ser Glu Thr Ser Arg Ser Val Gln Glu Leu Val 229 210		GIU	цуз	_	ASII	ьеu	пец	1113		пуз	116	GIII	GIU		Ser	СТУ	361
229 210 y Ser Glu		Tle	Δla		Len	Phe	Ser	Glu		Ser	Arσ	Ser	Val		Glu	T.e.u	Va l
231 Asp Lys Ser Glu Gly Ile Ser Gln Ala Ser Lys Thr Val 240 230 235 1 235 1 1 240 240 240 240 235 1 1 Leu Clu 240 240 235 1 240 Clu Lys Ser Ile Gly Gly Lys Lys <t< td=""><td></td><td></td><td></td><td>11011</td><td>ДСи</td><td>1 110</td><td>DCI</td><td></td><td>1</td><td>JCI</td><td>**** 9</td><td>JCI</td><td></td><td>0111</td><td>Olu</td><td>пси</td><td>, u i</td></t<>				11011	ДСи	1 110	DCI		1	JCI	**** 9	JCI		0111	Olu	пси	, u i
232 225 Thr Val Glu Glu Lys Ser Ile Gly Lys Lys Lys Gly Lys Lys Glu Leu Asp Thr Ser Leu Glu Leu Asp Thr Ser Leu Asp Thr Ser Leu Asp Thr Ser Leu Asp Glu Ile Ala Gln Gln Ile Glu Lys Leu Asp Glu Ile Ala Gln Ile Gln Ile Glu Lys Leu Asp Ile Ala Gln Ile Gln Ile Leu Leu Asp Ile Ala Ile Ala Ala Ile Ala A		Asp		Ser	Glu	Glv	Ile		Gln	Ala	Ser	Lvs		Glv	Thr	Val	Thr
235 Val Gln Gln Lys Gln Met Asn Lys Jle Asp Thr Ser Leu Val Gln Ile 265 Val Eeu Val Gln Ile 270 Val Ile 265 Val Ile 270 Val Ile 265 Val Ile 270 Val Ile 260 Val Ile Asp Ile Asp <td></td> <td></td> <td>-1</td> <td></td> <td></td> <td> 2</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>1</td> <td></td> <td></td> <td></td>			-1			2								1			
235 Val Gln Gln Lys Gln Met Asn Lys Jle Asp Thr Ser Leu Val Gln Ile 265 Val Eeu Val Gln Ile 270 Val Ile 265 Val Ile 270 Val Ile 265 Val Ile 270 Val Ile 260 Val Ile Asp Ile Asp <td>234</td> <td>Ser</td> <td>Ser</td> <td>Thr</td> <td>Val</td> <td>Glu</td> <td>Glu</td> <td>Lys</td> <td>Ser</td> <td>Ile</td> <td>Gly</td> <td>Gly</td> <td>Lys</td> <td>Lys</td> <td>Glu</td> <td>Leu</td> <td>Glu</td>	234	Ser	Ser	Thr	Val	Glu	Glu	Lys	Ser	Ile	Gly	Gly	Lys	Lys	Glu	Leu	Glu
238												-	•	•			
240 Glu Lys Glu Met Val Lys Leu Asp Glu 11e Ala Gln Gln Ile Gln Ile Ala Gln Ile Ala Gln Ile Ala Leu Ser Ala Gln Ile Asn Leu Leu Leu Ser Ala Arg Ala Gly Gly Leu Ser Gly Lys Gly Ile Ala Ala Ala Ile Ala Arg Ala Ala Ala Arg Lys Ala Ala Ala Arg Lys Ala Ala <td>237</td> <td>Val</td> <td>Gln</td> <td>Gln</td> <td>Lys</td> <td>Gln</td> <td>Met</td> <td>Asn</td> <td>Lys</td> <td>Ile</td> <td>Asp</td> <td>Thr</td> <td>Ser</td> <td>Leu</td> <td>Val</td> <td>Gļn</td> <td>Ile</td>	237	Val	Gln	Gln	Lys	Gln	Met	Asn	Lys	Ile	Asp	Thr	Ser	Leu	Val	Gļn	Ile
241 275 280 280 280 280 11c 280 2	238				260					265.					270		
243 Ile Phe Gly Ile Val Thr Gly Ile Ala Glu Thr Asn Leu Asn Leu Leu Asn Ala Ser Ile Glu Ser Ala Arg Ala Gly Glu His Gly Lys Gly Asp Asp Ile Gly Gly Asp Ile Gly Gly Asp Ile Gly Gly Gly Ile Asp Ile Ile Asp Ile Asp Ile Ile Ile Ile Ile Ile Ile Ile Ile Ile <td>240</td> <td>Glu</td> <td>Lys</td> <td>Glu</td> <td>Met</td> <td>Val</td> <td>Lys</td> <td>Leu</td> <td>Asp</td> <td>Glu</td> <td>Ile</td> <td>Ala</td> <td>Gln</td> <td>Gln</td> <td>Ile</td> <td>Glu</td> <td>Lys</td>	240	Glu	Lys	Glu	Met	Val	Lys	Leu	Asp	Glu	Ile	Ala	Gln	Gln	Ile	Glu	Lys
244 290																	
246 Leu Asn Ala Ser Ile Glu Ser Ala Arg Ala Gly Glu His Gly Lys Gly 247 305 325 320 320 325 325 320 325 325 325 330 Leu Ser Glu Asp Thr Lys Lys Asp Leu Ser Glu Asp Thr Lys Asp Ser Glu Asp Thr Glu Ser Glu Asp Thr Asp Thr Glu Ser Glu Asp Thr Asp Thr Glu Asp Asp Thr Asp Thr Glu Asp Asp Thr Asp Thr Glu Asp Asp Thr Asp A		Ile		Gly	Ile	Val	Thr		Ile	Ala	Glu	Gln		Asn	Leu	Leu	Ser
247 305 310 315 315 320 249 Phe Ala Val Val Val Ala Ala Asn Glu Val Arg Lys Leu Ser Glu Asp Thr Lys 250 325 325 330 330 340 335 252 Lys Thr Val Ser Thr Val Ser Glu Leu Val Asn Asn Thr Asn Thr Gln 345 345 350 350 350 255 Ile Asn Ile Val Ser Lys His Ile Lys Asp Val Asn Glu Leu Val Ser 365 365 365 365 258 Glu Ser Lys Glu Lys Met Thr Gln Ile Asn Arg Leu Phe Asp Glu Ile 375 370 375 375 380 380 380 380 261 Val His Ser Met Lys Ile Ser Lys Glu Glu Gln Ser Gly Lys Ile Asp Val 390 395 395 400 264 Asp Leu Gln Ala Phe Leu Gly Gly Leu Gln Glu Val Ser Arg Ala Val 405 405 415 267 Ser His Val Ala Ala Ser Val Asp Ser Leu Val Ile Val Ile Leu Thr Glu Glu Glu				_		_	_		_		_	_					
249 Phe Ala Val Val Ala Asn Glu Val Arg Lys Leu Ser Glu Asn Jas 1 Asn 330			Asn	Ala	Ser	Ile		Ser	Ala	Arg	Ala	_	Glu	His	Gly	Lys	
250 Lys Thr Val Ser Thr Val Ser Thr Val Ser Glu Leu Val Asn Asn Thr Asn Thr Asn Thr Gln Gln 253 340 Ser Lys His Ile Lys Asn Asn Asn Glu Leu Val Ser 255 Ile Asn Ile Val Ser Lys His Ile Lys Asn Glu Leu Val Ser Leu Val Ser Ile Ser Ile Asn Glu Leu Val Ile Asn Glu Ile Asn Ile Ile Asn Ile Ile Asn Ile Ile Ile Asn Ile Ile Asn Ile Ile Asn Ile Ile Ile Asn Ile Ile Ile I				1	1			~ 3	3	_	_		_		_	_,	
252 Lys Thr Val Ser Thr Val Ser Glu Leu Val Asn Asn Thr Asn Thr Gln 340		Pne	Ala	Val	Val		Asn	Glu	Val	Arg	_	Leu	Ser	Glu	Asp		Lys
253				17-1	C		17-1	C	G 1	T		3	3	mh m	A a n		C1 n
255 Ile Asn Ile Val Ser Lys His Ile Lys Asp Val Asp Glu Leu Val Ser Jee Val Ile Asp Val Asp Leu Phe Asp Glu Ile Asp Ile Ile Asp Ile Ile Asp Ile Asp Ile Asp Ile Ile Asp Ile Ile Asp Ile Ile Asp Ile Ile Ile Ile Asp Ile Ile Ile Ile Ile Asp Ile Ile Ile Ile Ile Ile Ile Ile Ile I		гуѕ	THE	vaı		THE	val	ser	GIU		vaı	ASII	ASII	THE		THI	GIII
256		Tlo	Δen	Tla		Sor	Lare	ui c	Tla		λen	Wa 1	λen	Glu		Va 1	Ser
258 Glu Ser Lys Glu Lys Met Thr Gln Ile Asn Arg Leu Phe Asp Glu Ile 259		110	ASII		VUI	Jei	шуз	1113		шуз	тэр	Vai	nsii		пец	vuı	501
259 370 375 375 380 261 Val His Ser Met Lys Ile Ser Lys Glu Gln Ser Gly Lys Ile Asp Val 262 385		Glu	Ser		Glu	Lvs	Met	Thr		Tle	Asn	Arσ	T.e.ii		Asp	Glu	Tle
261 Val His Ser Met Lys Ile Ser Lys Glu Gln Ser Gly Lys Ile Asp Val 262 385		Olu			U_u	_, _	1100		01		11011	9		1	1104		
262 385 390 395 400 264 Asp Leu Gln Ala Phe Leu Gly Gly Leu Gln Glu Val Ser Arg Ala Val 265 405 410 415 267 Ser His Val Ala Ala Ser Val Asp Ser Leu Val Ile Leu Thr Glu Glu		Val		Ser	Met	Lvs	Ile		Lvs	Glu	Gln	Ser		Lvs	Ile	Asp	Val
264 Asp Leu Gln Ala Phe Leu Gly Gly Leu Gln Glu Val Ser Arg Ala Val 265 405 405 410 415 267 Ser His Val Ala Ala Ser Val Asp Ser Leu Val Ile Leu Thr Glu Glu									-1-				1	-1-		- 1	
265 405 410 415 267 Ser His Val Ala Ala Ser Val Asp Ser Leu Val Ile Leu Thr Glu Glu			Leu	Gln	Ala	Phe		Gly	Gly	Leu	Gln		Val	Ser	Arg	Ala	
		-						•	-						-		
	267	Ser	His	Val	Ala	Ala	Ser	Val	Asp	Ser	Leu	Val	Ile	Leu	Thr	Glu	Glu
	268				420					425					430		

on ERROR

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/455,978

DATE: 07/07/2001 TIME: 13:15:00

Input Set : A:\H1020011.app

Output Set: N:\CRF3\07062001\I455978.raw

```
274 <210> SEQ ID NO: 5
     275 <211> LENGTH: 57
     276 <212> TYPE: PRT
     277 <213> ORGANISM: Artificial Sequence
     279 <220> FEATURE:
     280 <223> OTHER INFORMATION: Description of Artificial Sequence: Template
                                      2227 must contain location of all Xaa's.
     281
               sequence
     283 <220> FEATURE:
                                           Xan's are all the same use of a range describe the location is fine. See it to # ?
     284 <221> NAME/KEY: UNSURE
     285 <222> LOCATION: (4)
     286 <223> OTHER INFORMATION: X at any position in this sequence is unknown.
     288 <400> SEQUENCE: 5
W--> 289 Ile Ile Lys Xaa Thr Val Pro Val Leu Xaa Glu His Gly Xaa Xaa Ile
           1 .
W--> 292 Gly Gln Asp Val Leu Val Val Leu Ile Lys Xaa Asn Pro Glu Ile Gln
W--> 295 Glu Lys Phe Phe Phe Lys His Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
     296
                  35
                                       40
W--> 298 Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
              50
     302 <210> SEQ ID NO: 6
     303 <211> LENGTH: 55
     304 <212> TYPE: PRT
     305 <213> ORGANISM: Erwinia chrysanthemi
     307 <400> SEQUENCE: 6
     308 Ile Lys Ser Thr Ile Pro Leu Leu Ala Glu Thr Gly Pro Ala Leu Thr
     311 Ala His Phe Tyr Gln Arg Met Phe His His Asn Pro Glu Leu Lys Asp
                      20
                                           25
     314 Ile Phe Asn Met Ser Asn Gln Arg Asn Gly Asp Gln Arg Glu Ala Leu
     317 Phe Asn Ala Ile Cys Ala Tyr
     318
              50
     321 <210> SEQ ID NO: 7
     322 <211> LENGTH: 56
     323 <212> TYPE: PRT
     324 <213> ORGANISM: Vitreoscilla stercoraria
     326 <400> SEQUENCE: 7
    327 Ile Ile Lys Ala Thr Val Pro Val Leu Lys Glu His Gly Val Thr Ile
                                               10
    330 Thr Thr Thr Phe Tyr Lys Asn Leu Phe Ala Lys His Pro Glu Val Arg
                                           25
    333 Pro Leu Phe Asp Met Gly Arg Gln Glu Ser Leu Glu Gln Pro Lys Ala
    334
    336 Leu Ala Met Thr Val Leu Ala Ala
             50
    340 <210> SEQ ID NO: 8
    341 <211> LENGTH: 55
```

Use of n and/or Xaa has been detected in the Sequence Listing. Review the Sequence Listing to insure a corresponding explanation is presented in the <220> to <223> fields of each sequence using n or Xaa.

342 <212> TYPE: PRT

VERIFICATION SUMMARY

PATENT APPLICATION: US/09/455,978

DATE: 07/07/2001

TIME: 13:15:01

Input Set : A:\H1020011.app

Output Set: N:\CRF3\07062001\1455978.raw

```
L:289 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:5
L:292 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:5
L:295 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:5
L:298 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:5
L:752 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:30
L:755 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:30
L:934 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:41
L:952 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:42
L:1061 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:50
L:1700 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:82
L:1703 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:82
L:1722 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:83
L:1744 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:84
L:1763 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:85
L:1785 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:85
```